Hamzagic, E., & Tournois, N. (2021). New dimension in the Bank Service Quality (BSQ) measurement scale: An empirical investigation. *Journal of International Studies, 14*(4), 131-142. doi:10.14254/2071-8330.2021/14-4/9

Journal of International Studies

Scientific Papers

New dimension in the Bank Service Quality (BSQ) measurement scale: An empirical investigation

Enes Hamzagic
IAE Nice Graduate School of Management, Université Côte d'Azur, France
enes.hamzagic@etu.univ-cotedazur.fr
ORCID 0000-0002-4649-0047

Nadine Tournois
IAE Nice Graduate School of Management, Université Côte d'Azur, France
nadine.tournois@unice.fr

Abstract. The managers realize the importance of high service quality and the level of competitiveness which comes with it. The problem of today's quality assessment scales is in lack of the overall assessment of the service quality specifically designed for the banking sector. Bahia and Nantel (2000) developed Bank Service Quality (BSQ) scale, which is composed of six dimensions, namely: effectiveness and assurance, access, price, tangibles, service portfolio and reliability. The objective of this paper is to extend the BSQ measurement scale to measure dimensions which were not covered in the original. The newly added dimension will measure the quality of e-banking and the quality of mobile e-banking service. The new extended version of BSQ scale has already been cross-culturally adapted and employed in the banks in Serbia. An empirical study captured customers' evaluation of the service quality, a total of 201 clients were surveyed. Statistical techniques such as Cronbach's-alpha, Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were employed. The findings suggested that the new extended BSQ scale is statistically significant reliable and valid. From the practical perspective, this quality assessment scale could be used for the better assessment and measurement of the overall services quality provided by the banks.

Keywords: service quality, e-banking, mobile e-banking, Bank Service Quality (BSQ).

JEL Classification: G20, M14, M16

Received: December, 2020
1st Revision: July, 2021
Accepted: November, 2021

DOI: 10.14254/2071-8330.2021/14-4/9

1. INTRODUCTION

Today, banks represent one of the main pillars of the financial system and the economy in general. Banks handle most of the transactions we utilize today. As a result, they are the most significant financial intermediaries. The feature of quality is sought in each of the bank's roles, such as credit provision, remittance of money, liquidity provision, and so on. Banking services, as part of tertiary sector, put emphasis on quality in order to differentiate themselves on the market and gain the competitive advantage. Sharma and Sharma (2019) found that service quality and trust are the key determinants influencing satisfaction and intention to use and, in turn, influence the actual usage of mobile banking. According to Calabrese (2012), the two main drivers of good performance in service companies are high service productivity and high customer-perceived quality.

The focus of this study lies in the fact that a great number of services in the banking industry, especially in undeveloped and developing countries, are conducted face-to-face. Meanwhile, in developed countries information technologies have in many ways decreased the need for face-to-face contact with bankers. By determining and maintaining a certain level of service quality, banks may keep their clients, attract new customers, and improve overall performance. Banks should provide high-quality service in order to build long-term relationships with their customers (Lassar, Manolis, & Winsor, 2000). Yet, surprisingly, the question of how customers respond to increased competition among banks offering differing levels of service quality has received little attention in efficiency measurement (Paradi, Sherman, & Tam, 2018).

Attempts to study service marketing and service quality issues date back to the mid-1960s (Rathmell, 1966). One of the most popular scales for measuring service quality is SERVQUAL, developed by Arun Parasuraman, Zeithaml, and Berry (1988). SERVQUAL is a gap analysis model which measures the gap between perceptions and expectations. Lewis (1989) determined that consumers' perceptions of service quality are based on a comparison between their expectations and their perceptions of actual service performance. The concept of service quality was first developed and measured by Grönroos (1984). His approach used three dimensions of service quality: technical quality, functional quality, and corporate image. Technical quality is about customer feedback on the service. Functional quality, which is more essential than technical quality for consumer perceptions and service distinction, refers to how customers use the service.

Furthermore, the limitations of the measurement scales developed in western societies, is that they may lack cross-cultural flexibility because they were developed for one type of cultural context. In this sense, the cross-cultural adaptation of scales is necessary.

According to Babakus and Boller (1992) the SERVQUAL five dimensions are not generic and should be tailored to the industry. SERVQUAL has been tested in a variety of areas, but this does not mean that it is universal and applicable to all service sectors. Seth, Deshmukh, and Vrat (2005) recognized that the outcome and measurement of SERVQUAL were dependent on a specific type of service setting, situation, time and number of encounters, competitive environment, and needs. That is why the BSQ scale was created exclusively for the banking industry. BSQ was developed by Bahia and Nantel (2000), and it measures six dimensions: (1) effectiveness and assurance; (2) access; (3) price; (4) tangibles; (5) services portfolio and reliability. Alternatively, Arun Parasuraman et al. (1988) suggested a five-dimensional construct of perceived service quality, with expectations and perceived performance (1) tangibles; (2) reliability; (3) responsiveness; (4) assurance; (5) empathy.

Table 1

Comparison of SERVQUAL and BSQ scales

	SERVQUAL	**BSQ**
Loading	<0.5 for 9/22 variables	0.57 to 0.89 for all the 31 variables
Dimensional structure	Five interdependent dimensions	Six independent dimensions
Application domain	All services	Banking services
Reliability	**$0.72 < \alpha < 0.86$**	$0.78 < \alpha < 0.96$
Convergent validity	One test	One test
Nomological validity	Two tests	Three tests
Discriminant validity	0 test	One inconclusive test

Source: Bahia and Nantel (2000)

Furthermore, Bahia and Nantel (2000) noted that marketing mix, with seven Ps, is already well represented by the ten dimensions (SERVQUAL), while others are only partially represented (see Table 2).

Table 2

The seven Ps covered by the BSQ scale

The seven Ps	**Presence among the ten dimensions of (Arun Parasuraman et al., 1988)**	**Dimensions added**
Place	Present in the tenth dimension: "Access"	None
Process	Present in many of the ten dimensions	None
Product/service	Present and somewhat predominant in the ten dimensions	The portfolio aspect is absent This will be the connection with the 11th dimension
Participants or employee/customer interaction, employee/employee interaction and customer/customer interaction	The employee/customer interaction is included in the fourth dimension: "Communication"	The interactions employee-employee and customer-customer will comprise the 12th dimension
Physical surroundings: tangibles and atmosphere	Tangibles are in the first dimensions	The "atmosphere" will be the object of the 13th dimension
Price	Absent	According to (Raddon, 1987), the price could form the most important criteria for the customer The 14th dimension will be devoted to the price
Promotion	Absent	The 15th dimension will be devoted to the promotion

Source: Bahia and Nantel (2000)

In different ways, our research contributes to the current literature. Aside from the aspects examined by the BSQ scale, the scale does not measure the service quality of e-banking. In this research, we want to add a new dimension to the existing BSQ scale, which will be used to assess the quality of e-banking services. Furthermore, we will investigate the utilization of this expanded scale in the Serbian socio-cultural context.

The following is how the paper is structured. After the introduction, we will introduce the BSQ scale and comment on the additional dimension that will be added to it. We will then describe the sample and methodology used in the study, and then we will present the results of the quantitative analysis. Finally, we outline our study's key contribution as well as its shortcomings.

2. CONCEPTUAL FRAMEWORK

We witness a wide number of innovative digital payments solutions. A majority of banks provide a vast number of online solutions for easier accessibility and service usage. Banks want to be "just a click" ahead of the competitors (Hunt & Menon, 2006). Researchers have widely captured this phenomenon and sensed that the widespread development and use of mobile payment (MP) systems would radically change the methods of purchase and deliver unique value to both consumers and service providers (de Kerviler, Demoulin, & Zidda, 2016; Lee, Harindranath, Oh, & Kim, 2015; Sharma & Sharma, 2019). With the development of new technologies, the type of services provided is constantly evolving. Therefore, such changes in provided services should be accompanied by adequate measurement scales, which should assess and measure the new services provided. In order to enhance customer loyalty, portals are required to put a strong emphasis on their customers 'quality demands, which are steadily increasing over time due to the growing competition in the internet banking industry (Jun & Cai, 2001). A number of scales for measuring online service quality were developed based on the SERVQUAL model (see Table 3).

Table 3

Online service quality scales

Scales	Authors
SITE QUAL	(Yoo & Donthu, 2001)
WebQual	(Loiacono, Watson, & Goodhue, 2002)
WEBQUAL 4.0	(Barnes & Vidgen, 2002)
eTailQ	(Wolfinbarger & Gilly, 2003)
E-S-QUAL and E-RecS-QUAL	(Ananthanarayanan Parasuraman, Zeithaml, & Malhotra, 2005)
eTransQual	(Bauer, Falk, & Hammerschmidt, 2006)
PeSQ	(Cristobal, Flavian, & Guinaliu, 2007)

Source: own calculation

There are many scales which are specifically designed to measure consumer attitudes towards e-banking. Liao and Cheung (2002) proposed a scale which specifically measures the quality of e-banking by measuring the following dimensions: (1) convenience; (2) user experience; (3) user friendliness; (4) user involvement; (5) system security; (6) transactions speed. We have decided to measure e-banking dimensions by adding two additional items to the BSQ scale, namely quality of e-banking and quality of mobile e-banking. These two new dimensions are intended to assess the general impression of the client's experience with any e-banking platform.

3. METHODOLOGY AND DATA COLLECTION

We utilized the Bank Service Quality questionnaire to collect data. The questionnaire was modified to include the two additional items that we aimed to evaluate, namely e-banking and mobile e-baking. From March to May 2018, surveys were distributed to bank clients in Serbia. The bank 's clients were randomly selected to take part in our research. The bank 's clients were randomly contacted in a variety of methods, including (1) social media; (2) several organizations consented to distribute surveys to their employees; and

(3) a few professors agreed to distribute questionnaires to their students. Because of the personal touch and regular follow-ups, the response rate was very high.

The respondents's assessment of service quality was assessed using a seven-point Likert scale (1-strongly disagree to 7-strongly agree). It was a self-administered survey with closed-ended questions. Prior to the main research, a pilot study with 15 participants was done. Following the pilot research, the tool was slightly modified, resulting in changes to the phasing of the questions. The surveys were divided into two sections, the first of which comprised the BSQ scale (including two new items). The second section of the questionnaire attempted to create a demographic profile of the bank's client, including gender, education level, and age.

Respondents' had the option of submitting their responses in a variety of ways. There were a total of 201 respondents. 128 respondents submitted their survey online and 73 respondents used paper-based surveys. As shown in Table 4, many respondents are between the age of 20 and 34. Since we added an e-banking dimension to the questionnaire, having predominantly younger respondents eased the validation of new items.

Considering that the BSQ scale was developed and tested in Canada, we decided to conduct a cross-cultural adaptation of the instrument:

1) The questionnaire, including BSQ scale and new e-banking dimension was translated to Serbian language.
2) The translated questionnaire was evaluated by experts from the relevant language disciplines.
3) A back-translation was conducted.
4) The professor of Serbian language conducted a proofreading and linguistics review.
5) Necessary adjustments were adopted after each step of the cross-cultural adaptation.

Table 4

Bank customers' demographic characteristics

Demographic variable	**Valid per cent**
Respondent's age	
14-19	6.5
20-24	32.8
25-29	36.3
30-34	16.4
35-39	2.5
40-44	1.5
45-49	1.5
50-54	0.5
55-59	0.5
60-64	1.0
65-69	0.5
Gender	
Female	68.2
Male	31.8
Education	
Primary education	1.5
Secondary education	20.9
College	15.9
University	48.8
Master	11.0
Ph.D.	2.0

Source: own calculation

3.1. Exploratory factor analysis (EFA)

Watkins (2018) noted that exploratory factor analysis (EFA) is one of a family of multivariate statistical methods that attempts to identify the smallest number of hypothetical constructs (also known as factors, dimensions, latent variables, synthetic variables, or internal attributes) that can parsimoniously explain the covariation observed among a set of measured variables (also called observed variables, manifest variables, effect indicators, reflective indicators, or surface attributes). In total, 32 variables were examined with a sample size N=201. First, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy was calculated. Field (2013) stated that a KMO value close to 1 indicates that patterns of correlations are relatively compact and therefore factor analysis should yield distinct and reliable factors. In our case, KMO=.930, p<.01. Hutcheson and Sofroniou (1999) stated that KMO values within .5 to .7 are mediocre, .7 and .8 are good, .8 and .9 are great and above .9 is superb. As Table 5 shows and according to the classification, our KMO result is *superb* with 496 degrees of freedom, the approximate Chi-Square is 4113.531.

Table 5

The Kaiser-Meyer Olkin Measure (KMO)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.930
Bartlett's Test of Sphericity	Approx. Chi-Square	4113.531
	df	496
	Sig.	.000

Source: own calculation

McDonald (2014) defined rotation as performing arithmetic to obtain a new set of factor loadings (v-*f* regression weights) from a given set. According to Vogt and Johnson (2011),this is done in a different way (orthogonal) depending on whether the components are thought to be correlated (oblique) or uncorrelated (direct). To test which rotation should be used, we calculated the factor correlation matrix. Using promax rotation, the correlations between the factors were generally >.2. Thus, in our further research, we used the promax rotation.

We used Maximum Likelihood as the Extraction method and Promax rotation with Kaiser Normalization as the rotation method. To assess the factor loading for each ranking factor and the total variance explained by each factor, eigenvalues greater than 1 were used as a guideline. Those factors with eigenvalues greater than one represent factors contributing a higher than average percentage of the communal variance and should be retained (Watson, 2017). As it is presented in the Table 6, the first factor always has the highest Eigen value, and thus has the highest percentage of variance. In our sample, there are six components with Eigen values greater than one, accounting for 66.35 percent of the variation. The first factor explained 42.88 percent of the variance, whereas the second factor explained 6.82 percent, the third factor 5.39 percent, the fourth factor 4.19 percent, the fifth factor 3.71 percent, and the sixth factor 3.36 percent.

Knekta, Runyon, and Eddy (2019) noted that if an item has a low factor loading on its focal factor, it means that the item shares no or little variance with the other items that theoretically belong to the same focal factor and thus its contribution to the factor is low. Therefore, we have suppressed all the items with a low factor loading. There are two variables which have factor loadings close to .32, namely Q27 and Q32. In such clusters, we decided to use six factors, namely: Effectiveness and Assurance, Price and Interface, Tangibles and Services Portfolio, Access, Efficiency, Personal contact.

Table 6

Total Variance Explained[1]

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	13.721	42.878	42.878	13.280	41.500	41.500	10.938
2	2.183	6.823	49.701	1.811	5.660	47.160	11.383
3	1.724	5.388	55.089	1.342	4.195	51.355	7.259
4	1.340	4.187	59.276	.919	2.872	54.227	7.964
5	1.188	3.712	62.988	.757	2.366	56.594	3.974
6	1.077	3.364	66.352	.721	2.254	58.848	2.688

Source: own calculation

Table 7

Descriptive statistics and factor extraction results

Item acronym	Mean	SD	Factor loadings	Eigen value	Cronbach 's alpha
EASQ03	5.21	1.593	0.732	13.72	0.915
EASQ09	5.01	1.549	0.680		
EASQ01	4.64	1.516	0.674		
EASQ06	5.39	1.469	0.650		
EASQ05	4.97	1.494	0.639		
EASQ04	5.47	1.496	0.632		
EASQ11	4.89	1.436	0.629		
EASQ08	4.63	1.523	0.618		
EASQ10	5.44	1.366	0.616		
EASQ13	5.32	1.463	0.576		
EASQ12	4.81	1.524	0.573		
PRSQ20	4.17	1.695	0.703	2.18	0.905
PRSQ22	4.07	1.865	0.683		
PRSQ19	4.46	1.830	0.627		
PRSQ21	4.10	1.872	0.625		
ITSQ31	5.00	1.506	0.583		
ITSQ32	4.92	1.619	0.562		
RESQ29	4.59	1.533	0.504		
RESQ30	4.86	1.612	0.503		
TASQ25	5.14	1.475	0.760	1.72	0.844
TASQ24	5.54	1.522	0.737		
TASQ23	4.80	1.843	0.516		
SPSQ28	4.63	1.439	0.516		
ACSQ15	5.21	1.453	0.488		
ACSQ18	4.01	1.780	0.776	1.34	0.844
ACSQ17	3.78	1.838	0.759		
ACSQ14	4.08	1.830	0.729		
ACSQ16	4.70	1.609	0.655		
TASQ26	4.63	1.738	0.843	1.18	0.663
SPSQ27	4.86	1.548	0.4841		
EASQ07	3.35	2.087	0.890	1.07	0.7
EASQ02	4.46	1.808	0.787		

Source: own calculation

[1] Extraction Method: Maximum Likelihood.

To further evaluate our model, standardized regression weights (SRW) and critical ratio (CR) were analyzed for each item. Composite reliability co-efficient (CRC) and average variance extracted (AVE) were assessed to examine reliability and convergent validity of the extracted factors. The methodology used for the calculation of the AVE and CRC, was proposed by Hair (2010). According to Hair (2010), the threshold for the values presented in the Table 8 are 0.50 for standard regression weights, ±1.96 for critical ratio, 0.5 for average variance extracted and 0.7 for composite reliability co-efficient. As we can see in the Table 8, SRW and CR are higher for all items, while for certain dimensions CRC and AVE were lower. Furthermore, Cronbach 's alpha should be applied to all the factors extracted during a previous factor analysis (Field, 2009). As previously stated, we extracted six factors. The extracted factors have Cronbach 's alpha which varies from .915 to .663.

Table 8

Six-dimensional model with model estimates and psychometric analysis[2]

Dimensions	**Items**	**Standardized regression weights (SRW)**	**Critical Ratio (CR)**	**P (Sig. level)**	**Composite reliability co-efficient (CRC)**	**Average variance extracted (AVE)**
Effectiveness and Assurance	**EASQ03**	**0.7**			**0.88**	**0.41**
	EASQ09	0.742	9.965	***		
	EASQ01	0.728	9.79	***		
	EASQ06	0.663	8.937	***		
	EASQ05	0.605	8.172	***		
	EASQ04	0.75	10.069	***		
	EASQ11	0.789	10.569	***		
	EASQ08	0.62	8.367	***		
	EASQ10	0.707	9.513	***		
	EASQ13	0.773	10.365	***		
	EASQ12	0.669	9.014	***		
Price and Interface	**PRSQ20**	**0.676**	*		**0.82**	**0.36**
	PRSQ22	0.785	10.094	***		
	PRSQ19	0.753	9.72	***		
	PRSQ21	0.762	9.823	***		
	ITSQ31	0.725	9.397	***		
	ITSQ32	0.632	8.292	***		
	RESQ29	0.747	9.653	***		
	RESQ30	0.792	10.169	***		
Tangibles and Services Portfolio	**TASQ25**	**0.584**	*		**0.75**	**0.38**
	TASQ24	0.685	9.673	***		
	TASQ23	0.8	8.518	***		
	SPSQ28	0.71	7.894	***		
	ACSQ15	0.738	8.096	***		
Access	**ACSQ18**	**0.891**	*		**0.82**	**0.53**
	ACSQ17	0.836	14.758	***		
	ACSQ14	0.562	8.454	***		
	ACSQ16	0.77	13.054	***		
Efficiency	**TASQ26**	**0.54**	*		**0.63**	**0.47**
	SPSQ27	0.926	6.608	***		
Personal contact	**EASQ07**	**0.501**	*		**0.83**	**0.71**
	EASQ02	1.087	3.204	0.001		

Source: own calculation

[2] * UnStandardized regression weights assumed as 1
*** Significant at $p<0.05$ level

Convergent validity represents the degree to which two indicators capture a common construct. When evaluating the convergent validity, standardized factor loadings should be above 0.50, CRs higher than 1.96 and AVE should be 0.50 or higher. Furthermore, the discriminant validity was assessed as stated by Bove, Pervan, Beatty, and Shiu (2009), by comparing the shared variance (squared correlation) between each pair of constructs against the average of the AVEs for these constructs (see Table 9). For each case, the shared variance of the construct was higher than AVE.

Table 9

Discriminant validity of service quality dimensions[3]

Factors	Effectiveness and Assurance	Price and Interface	Tangibles and Services Portfolio	Access	Efficiency	Personal contact
Effectiveness and Assurance	**0.410**					
Price and Interface	0.395	**0.360**				
Tangibles and Services Portfolio	0.010	0.042	**0.380**			
Access	0.179	0.131	0.296	**0.530**		
Efficiency	0.035	0.262	0.088	0.040	**0.470**	
Personal contact	0.021	0.181	0.076	0.257	0.455	**0.510**

Source: own calculation

3.2. Confirmatory Factor Analysis (CFA)

The six factors extracted in EFA will be validated through the confirmatory factor analysis. The fit indices were calculated using Chi-square, df, CFI, NFI, RMSEA, IFI. According to Hu and Bentler (1999), root mean square error of approximation (RMSEA) must be equal to or less than 0.08 for an adequate model fit. In our case, the RMSEA is .071 (see Table 10). West, Taylor, and Wu (2012) stated that CFI of .95 is the most widely used criterion for a good fit. In our case CFI value is .883. Bentler and Bonett (1980) noted that normed fit index (NFI) should be close to 1. The NFI value is in our case .794, which is the indication of good model fit.

Table 10

Model fit indices

Chi-square	900.371
Degrees of freedom	447
Probability level	.000
CFI	0.883
NFI	0.794
RMSEA	0.071
IFI	0.884

Source: own calculation

Structural Equation Modelling (SEM) has become one of the techniques of choice for researchers across disciplines and increasingly is a 'must' for researchers in the social sciences (Hooper, Coughlan, & Mullen, 2008). We will utilize SEM to better visualize the relationship between the variables and the factors' covariance.

[3] Diagonal values are AVE and other values are inter-construct squared correlations

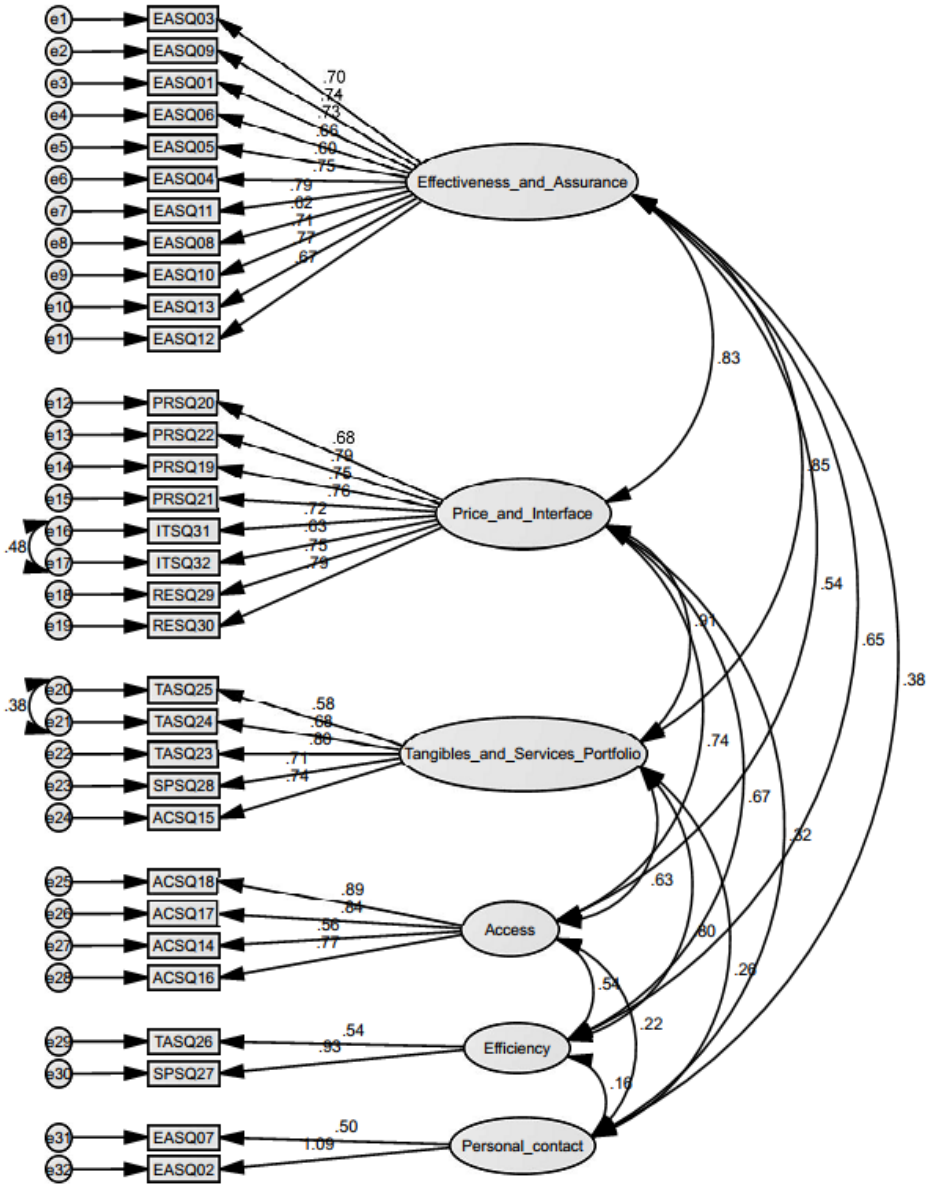

Figure 1. Two-way CFA: Structural Equation Modelling of four factors
Source: own compilation

4. CONCLUSION

The contributions of this study are the inclusion of new items to the previously existing Bank Service Quality scale, which should assess the e-banking component of service quality. Banks currently provide a variety of innovative payment alternatives, and the use of digital payments rose throughout the coronavirus pandemic. It is critical that the service quality scales encompass all aspects of the banks' service quality, including new and creative service solutions.

The performed study's factor analysis, which used a cross-culturally modified questionnaire, revealed six unique dimensions including: Effectiveness and Assurance, Price and Interface, Tangibles and Services Portfolio, Access, Efficiency and Personal contact. The defined construct differs from the construct in the

original study. The limitations of this study are potentially the random data collection and the relatively low model fit indices. Future research may aim at replicating the study in different cultural surroundings.

According to the findings of our survey in Serbia, the average of overall assessment of service quality is 4.72, on a scale from 1-strongly disagree to 7-strongly agree. Such results show the moderate satisfaction with the service quality. The lowest mean was in the case of Q07- "Knowledge of the clients on a personnel basis", while the highest mean was Q24- "Cleanliness of facilities". The dimensions on which banks in Serbia should put emphasis are Access and Price dimensions, for the reason of low mean scores.

Banks should deliver high-quality service in all dimensions. Scales like this one may have practical ramifications and assist banks in identifying features that deserve more attention. Banks should be encouraged to utilize the enhanced BSQ scale to identify gaps and aspects where quality of service is lacking. Given that the BSQ has previously been used in cross-cultural research and was constructed utilizing a complete literature evaluation, we feel the instrument's validity is assured. The study demonstrated the dependability and validity of the two new items and the overall BSQ scale, designed exclusively for the banking industry. We anticipate that with the inclusion of additional items, our new and extended BSQ scale will be able to more effectively assess and offer a more accurate picture of the bank 's service quality.

REFERENCES

Babakus, E., & Boller, G. W. (1992). An empirical assessment of the SERVQUAL scale. *Journal of Business research, 24*(3), 253-268.

Bahia, K., & Nantel, J. (2000). A reliable and valid measurement scale for the perceived service quality of banks. *International journal of bank marketing, 18*(2), 84-91.

Barnes, S. J., & Vidgen, R. T. (2002). An integrative approach to the assessment of e-commerce quality. *J. Electron. Commerce Res., 3*(3), 114-127.

Bauer, H. H., Falk, T., & Hammerschmidt, M. (2006). eTransQual: A transaction process-based approach for capturing service quality in online shopping. *Journal of Business Research, 59*(7), 866-875.

Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological bulletin, 88*(3), 588.

Bove, L. L., Pervan, S. J., Beatty, S. E., & Shiu, E. J. J. o. b. r. (2009). Service worker role in encouraging customer organizational citizenship behaviors. *62*(7), 698-705.

Calabrese, A. (2012). Service productivity and service quality: A necessary trade-off? *International Journal of Production Economics, 135*(2), 800-812.

Cristobal, E., Flavian, C., & Guinaliu, M. (2007). Perceived e-service quality (PeSQ). *Managing Service Quality: An International Journal*.

de Kerviler, G., Demoulin, N. T. M., & Zidda, P. (2016). Adoption of in-store mobile payment: Are perceived risk and convenience the only drivers? *Journal of Retailing and Consumer Services, 31*, 334-344. https://doi.org/10.1016/j.jretconser.2016.04.011

Field, A. (2009). *Discovering statistics using SPSS*: Sage publications.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics*: sage.

Grönroos, C. (1984). A service quality model and its marketing implications. *European Journal of marketing*.

Hair, J. F. (2010). *Multivariate data analysis* (7th ed.). Upper Saddle River, NJ: Prentice Hall.

Hooper, D., Coughlan, J., & Mullen, M. (2008). Structural equation modelling: Guidelines for determining model fit. *Articles*, 2.

Hu, L. t., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling: a multidisciplinary journal, 6*(1), 1-55.

Hunt, R., & Menon, R. (2006). Automate and engage to fulfil the true potential of the internet. *White Paper sponsored by: Adobe, Financial Insights, available at: www. adobe. com/fi financial/pdfs/idc_wp. pdf*.

Hutcheson, G. D., & Sofroniou, N. (1999). *The multivariate social scientist: Introductory statistics using generalized linear models*: Sage.

Jun, M., & Cai, S. (2001). The key determinants of internet banking service quality: a content analysis. *International journal of bank marketing, 19*(7), 276-291.

Knekta, E., Runyon, C., & Eddy, S. (2019). One size doesn't fit all: Using factor analysis to gather validity evidence when using surveys in your research. *CBE—Life Sciences Education, 18*(1), rm1.

Lassar, W. M., Manolis, C., & Winsor, R. D. (2000). Service quality perspectives and satisfaction in private banking. *Journal of services marketing, 14*(3), 244-271.

Lee, H., Harindranath, G., Oh, S., & Kim, D.-J. (2015). Provision of mobile banking services from an actor–network perspective: Implications for convergence and standardization. *Technological Forecasting and Social Change, 90*, 551-561. https://doi.org/10.1016/j.techfore.2014.02.007

Lewis, B. R. (1989). Quality in the service sector: a review. *International Journal of Bank Marketing, 7*(5), 4-12.

Liao, Z., & Cheung, M. T. (2002). Internet-based e-banking and consumer attitudes: an empirical study. *Information Management, 39*(4), 283-295.

Loiacono, E. T., Watson, R. T., & Goodhue, D. L. (2002). WebQual: A measure of website quality. *Marketing theory and applications, 13*(3), 432-438.

McDonald, R. P. (2014). *Factor analysis and related methods*: Psychology Press.

Paradi, J. C., Sherman, H. D., & Tam, F. K. (2018). Bank Branch Benchmarking with Quality as a Component. In *Data Envelopment Analysis in the Financial Services Industry* (pp. 159-184): Springer.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). Servqual: A multiple-item scale for measuring consumer perc. *Journal of retailing, 64*(1), 12.

Parasuraman, A., Zeithaml, V. A., & Malhotra, A. (2005). ES-QUAL: A multiple-item scale for assessing electronic service quality. *Journal of service research, 7*(3), 213-233.

Raddon, G. (1987). Quality service–A low-cost profit strategy. *Bank Marketing, 19*(9), 10-12.

Rathmell, J. M. (1966). What is meant by services? *The Journal of Marketing*, 32-36.

Seth, N., Deshmukh, S., & Vrat, P. (2005). Service quality models: a review. *International journal of quality reliability management, 22*(9), 913-949.

Sharma, S. K., & Sharma, M. (2019). Examining the role of trust and quality dimensions in the actual usage of mobile banking services: An empirical investigation. *International Journal of Information Management, 44*, 65-75.

Vogt, W. P., & Johnson, R. B. (2011). *Dictionary of statistics & methodology: a nontechnical guide for the social sciences: a nontechnical guide for the social sciences*: Sage.

Watkins, M. W. J. J. o. B. P. (2018). Exploratory factor analysis: A guide to best practice. *44*(3), 219-246.

Watson, J. C. (2017). Establishing evidence for internal structure using exploratory factor analysis. *Measurement and Evaluation in Counseling and Development, 50*(4), 232-238.

West, S. G., Taylor, A. B., & Wu, W. J. H. o. s. e. m. (2012). Model fit and model selection in structural equation modeling. *1*, 209-231.

Wolfinbarger, M., & Gilly, M. C. (2003). eTailQ: dimensionalizing, measuring and predicting etail quality. *Journal of retailing, 79*(3), 183-198.

Yoo, B., & Donthu, N. (2001). Developing a scale to measure the perceived quality of an Internet shopping site (SITEQUAL). *Quarterly journal of electronic commerce, 2*(1), 31-45.